**Week 4/Day 2 –** 1

**Introduction to Trigonometry on the ACT**

*This class will introduce the Trigonometry section of the ACT. This topic deals mainly with the measures of the angles in a right triangle. Generally, the ACT test will ask about the sine, cosine, and tangent of angles. The formulas and vocabulary used to understand Trigonometry will be covered in detail. This section accounts for about 7% of the ACT Math test so it is important that students understand the information presented here. There will be a great deal of student problem-solving practice and opportunity for any questions they may have. The concepts outlined below will familiarize the student with the test and alleviate their anxiety about expectations during the class and on the test.*

* **Materials:**
  + Whiteboard
  + Projector
  + Website: <http://www.act-math-practice.com/act-math-prep.htm>
  + Worksheet: Trigonometry to find Length and Trigonometry to find Angle Measures
  + PowerPoint slides (PPT #15): Trigonometry
  + ACT Math book
* **The student will:**
  + Understand the basic content of the ACT section of Trigonometry
  + Begin to learn basic Trigonometry vocabulary and formulas
  + Practice Trigonometry (amounts for about 7% of ACT math)
* **Hour 1** – Introduction to Trigonometry
  + 10 minutes – News clip to be summarized as a class (details in ‘Overview’)
  + 25 minutes—PPT #15 Trigonometry
    - Formulas and practice
  + 10 minutes – Use <http://www.act-math-practice.com/act-math-prep.htm> to practice Trigonometry questions as a class
  + 15 minutes – ACT Math book pgs. 77-78
    - Explain and discuss formulas and concepts
    - Discuss as a class to ensure understanding
    - It is very important that they memorize the formulas. Teach them the mnemonic device of “SOHCAHTOA” to remember the order
* **Hour 2** – Trigonometry Practice 2
* **20**-30 minutes—ACT Math book pgs. 94-96
  + - Students should first work individually, then:
    - Have volunteers come to the board to work the problems
    - Have them show process not just the answer
    - Discuss as a class to ensure understanding
    - Reinforce formulas (if they know trigonometry formulas, they will have no problem answering these question types
  + 20 minutes – BREAK (according to prayer time)
* **Hour 3** – Trigonometry Practice and Closure
  + 30 minutes – Worksheet: Trigonometry to find Lengths
    - Have volunteers come to the board to work the problems
    - Have them show process not just the answer
    - Discuss as a class to ensure understanding
    - Reinforce formulas
  + 30 minutes – Worksheet: Trigonometry to find Angle Measures
    - Have students work in pairs
    - Be available for any questions
    - Have them show process not just the answer
    - Reinforce formulas
  + Closure--Summarize and give students expectations for next session (anything the need to work on at night, and what will be taught in the next session) (details in ‘Overview’)
    - Have students recap the shapes and formulas of Plane Geometry
    - Have students review the vocabulary as a class
    - Answer any questions the students may have